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STEWARDSHIP



The Twin Eagles Golf Course in Naples was one of the first to install floating mats of aquatic plants.

Floating an Idea for Nutrient Removal

By Joel Jackson

Ever since Shelly Foy wrote about her field trip to Naples a year or so ago, I have been intrigued by the invention of Steve Beeman of Beeman Nursery in New Smyrna Beach. The idea is simply a floating island of aquatic plant material that can be used for aesthetic purposes and, more importantly, nutrient removal from lakes and ponds. With the topic of water quality in rivers, bays and estuaries on the front burner these days, this new concept has significant merit in helping to improve the situation.

For some years now, the terms "buffer zones" and "no mow zones" have leaped into our vocabulary to describe high-cut borders around golf-course water bodies. While the research mentions varying distances (10-30 feet) that these borders should extend from the water, many clubs are reluctant to grow such gnarly grass more than a few feet beyond the water line.

There are littoral shelves in water hazards with emergent and submergent aquatic plants to filter any nutrients coming off the golf course, and they do work and help in the total effort. But many clubs like the look of a clean shoreline.

Enter the floating mat idea.



There are an infinite number of mat configurations to be had including shape and plant varieties. Note the contrasting shorelines in the background – one with shoreline plants and one without.

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Close up of the dense root system from just one floating plant pot that is efficiently removing nutrients from the water.

The mats can be customized to any size and shape and a variety of aquatic plants mixed and matched to create attractive and very efficient nutrientfiltering islands. They can be located and anchored anywhere in the lake for visual appeal and efficiency. These islands offer cover for small fish and animals, which in turn attract larger fish and birds.

If large buffer zone or shoreline plants are not an option, take a hard look at this new method of using aquatic plants to improve water quality by removing nitrogen and phosphorus. These floating mats can also be used in retention ponds and lakes in the development and not just limited to the golf course.

ACSP FOR GOLF COURSES

Dispelling Common Myths

There are a number of "myths" and misconceptions that we hear from people from time-to-time about the Audubon Cooperative Sanctuary Program (ACSP). What follows is a short list of these common myths along with the correct information in response to each of them.

• Myth #1: Being in the ACSP is too difficult, and it's too tough to get certified.

It is not difficult, and you may already be taking actions that can lead to certification. Often, members look at the entire certification process instead of simply taking it one step at a time. Focus on fulfilling the Site Assessment and Environmental Plan. When a member gets through that first step, rather than worrying about all of the steps at once, they will be more likely to become invested in the program.

• Myth #2: Our course won't be able to join or work towards certification; we don't have the staff, money, or time.

Any existing golf course can join and work towards earning the Certified Audubon Cooperative Sanctuary designation. A course doesn't have to have lots of acreage or habitat to get certified — it just has to practice good environmental management, and we're here to help. Likewise, ACSP certified golf courses range from small nine-hole facilities and lowerbudget public courses to country clubs, high-end resorts, and PGA Tour facilities.

• Myth #3: We're not ready to go the distance — i.e., the certification material must be sent in all at once and be perfect in order to get certified.

The ACSP is not like a test and your certification request is not like a paper handed in to be graded. Instead, we work with you to find ways to meet certification guidelines based on the unique strengths and weaknesses of your site. We're here to help, not create roadblocks. • Myth #4: Due to our golf course policy, there is no way we could ever have children tour our golf course or put up nest boxes or naturalize all our shorelines, etc., so we cannot get certified.

Out of all the Standard Management Practices that Audubon International would like to see on every certified golf course, we know that some may not be applicable to a given situation, especially in the Outreach and Education category. That is why the ACSP is a flexible program. If there are any questions about suggested or required projects, please contact us.

• Myth #5: There is no way we will ever be able to afford a new irrigation system/ \$40,000 recycling equipment wash pad/ have an aerial photograph taken of the course/etc., so we cannot get certified.

These are a few of the many projects that we have heard people tell us they need to complete to get certified. This is simply not true. Once again, if there are any questions about suggested or required projects, please contact Audubon International. We can also send you a list of the Standard Management Practices that we prefer to see on every golf course.

• Myth #6: An environmentally managed golf course is a brown golf course.

We understand that in order to have a playable course, chemicals will be used—we do not require that you stop these practices outright. Rather, we can help you manage a playable course with as little chemical input as possible. Working on certification in the ACSP can help you reduce the amount of chemicals needed and reduce the adverse environmental impact from their use and application (i.e., runoff and water quality). Likewise, 54 members of the ACSP and the Audubon Signature Program were ranked among America's 100 Greatest Golf Courses by Golf Digest in 2002. The list's top ten included six ACSP participants, two of which are certified.

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John Reilly - Superintendent Stonegate @ Solivita Oaks And Cypress Courses



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IFAS Launches Long-Term Fertilizer Study

EDITOR'S NOTE: With the recent radical proposals to ban the use of certain fertilizers by several Florida counties, we have been fortunate to have Drs. Laurie Trenholm and Terril Nell from the UF/IFAS Department of Environmental Horticulture attend most of those county commission meetings to provide sciencebased information to these government bodies so they can evaluate the facts and follow responsible courses of action. To back up voluntary green industry BMPs and provide detailed scientific research for the eternally contentious issue of nutrient runoff and leaching, the following news release from the University of Florida/IFAS outlines the university's latest effort to bring common sense and science to the discussion table.

Florida's 5 million acres of home and commercial lawns may need fertilizer but its water resources don't, so University of Florida/IFAS researchers have embarked on a landmark study to verify the effectiveness of current state recommendations for lawn care.

Funded by the state Department of Environmental Protection, the fiveyear, \$3.5 million study is UF/IFAS' largest turfgrass research project ever, said Laurie Trenholm, an associate professor with UF's Institute of Food and Agricultural Sciences and one of the study's principal investigators. The research focuses on nitrogen and phosphorus, essential plant nutrients that pose significant threats to Florida's water quality.

"We've known for years how to produce beautiful turf, but now we're determining how to do it with the least amount of fertilizer," said Trenholm, who is also head of the Florida Urban Turfgrass Program. "When we're done, we'll have proven recommendations that are right for almost any landscape situation."

The study is based at three UF/IFAS research facilities - in Gainesville, Fort Lauderdale and near Pensacola - and addresses a variety of grass species, soil types and growing conditions, she said.

Current state recommendations are found in numerous publications, including the just-released third edition of "A Guide to Florida-Friendly Landscaping," a handbook for homeowners published by UF's Florida Yards and Neighborhoods program; a manual for lawn-care professionals, "Florida Green Industries Best Management Practices for Protection of Water Resources in Florida;" and the latest edition of "The Guide to Florida-Friendly Florida

thoods Handbook Handbook," by Trenholm edited and J. Bryan Unruh. Recommendations are also available at http://yourfloridalawn.ifas.ufl.edu and www.solutionsforyourlife.com

Yards &

The current recommendations have been used since about 2000 and were developed via collaboration among UF, Department of Environmental Protection and industry representatives, Trenholm said.

"The recommendations, which are known as best management practices, give individual homeowners and professionals a chance to prevent nutrient pollution," she said.

When fertilizer is properly applied to lawns, very little nitrogen and phosphorus is wasted, because turfgrass serves as a filter to absorb the nutrients, Trenholm said. But if fertilizer is applied at excessive rates or if heavy rainfall occurs shortly after fertilizing, the nutrients often leach through the

soil into ground water or run off into surface waters.

Excess nutrients in ground and surface waters represent Florida's biggest water-quality problem, said Eric Livingston, chief of DEP's Watershed Management Program. Nutrients reach Florida watersheds primarily from so-called "nonpoint sources," which carry water combined from multiple locations. One example of a nonpoint source is stormwater runoff in a city's drainage system.

"Nonpoint source pollution is hard to deal with because the nutrients may

originate from so many places," Livingston said.

Fortunately, funding to combat nonpoint source pollution is also arriving from multiple sources, both state and federal. DEP now has about \$28 million per year available for research and implementation, he said. The UF/IFAS study is one of the first long-term research projects established by the agency.

"It's good to have funds available for research, because there are so many unknowns concerning nonpoint source pollution," Livingston said.

The UF/IFAS study began in April 2004 and the first data were collected about a year later, said Michael Thomas, an agricultural engineer with DEP's Nonpoint Source Management Section who manages the research contract between UF and DEP. Initial results from the study are expected later this year.

"We will communicate findings to the public as things move along," Thomas said. "Eventually, the findings will be incorporated into publications such as the Florida Yards and Neighborhoods manual, DEP best management practices manuals and model ordinances."

Florida's soils and climatic conditions vary enough from one part of the state to another that multiple recommendations are a necessity, said John Cisar, a professor with UF/IFAS' Fort Lauderdale Research and Education



John Kopack Director of Grounds

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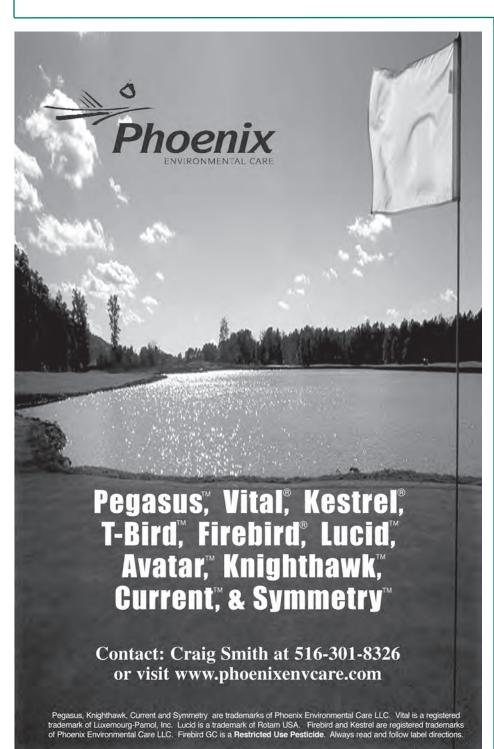
Center, who is leading the effort to verify fertilizer recommendations for South Florida.

"Generally, Florida has sand soils that are very prone to the movement of water," Cisar said. "Here in the southern part of the state we have a year-round growing season and shallow sand soils." In the central part of the state there

is some heavier sand soil and turf is

dormant or semidormant during the winter, said J. Bryan Unruh, an associate professor with UF's West Florida Research and Education Center in Jay, a community northeast of Pensacola. Soils in the Panhandle contain sand and some clay, and colder winters keep grass dormant up to five months per year.

At the Fort Lauderdale center, researchers are evaluating the fertil-



izer needs of St. Augustinegrass and bahiagrass; in Gainesville, St. Augustinegrass and zoysiagrass are being evaluated; and at UF's West Florida Research and Education Center facilities near Pensacola, centipedegrass and St. Augustinegrass are used.

Each location is hosting studies of both well-established turf and new turfgrass produced with sod or seed, important because the extent of the root system has implications for potential nutrient leaching, Unruh said. Established turfgrass has an extensive root system that can mine nutrients from the soil, whereas sod has a thin layer of roots and grass seedlings have few roots at all.

"One question we'll be able to address is whether it's wise to fertilize before planting grass seed," Unruh said. "It's a common practice, but some fertilizer may leach through the soil."

Researchers will also determine the best timetable for fertilizing newly established turfgrass, an important issue for builders and homeowners in new developments, he said.

The UF study is a welcome development for commercial lawncare providers, who want to follow best-management practices but also need assurance that the guidelines they're asked to follow are based on the best available science, said Erica Santella, region technical manager of the commercial lawn-care providers TruGreen-ChemLawn and TruGreen-LandCare in Orlando. "I'm excited that there will be some good, solid work to verify the BMPs," Santella said. "As Florida grows, water quality is going to be a big issue, and it's in everybody's interest that professionals, as well as homeowners, take an active role in reducing nutrient runoff."

"Florida Green Industries Best Management Practices for Protection of Water Resources in Florida" is available in English and Spanish online at www.dep.state.fl.us/water/ nonpoint;pubs.htm.



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Photo Contest Results

CATEGORY 2 - FORMAL LANDSCAPE



First Place: The Bent Tree. Photo by Tom Biggy, Bent Tree C. C.



Second Place: Specimen crape myrtle tree on #18. Photo by Teri Hoisington, Lansbrook Golf Club.

2006 PHOTO CONTEST RULES **Category 1** – Wildlife on the course: includes any critter on the course that walks flies, swims, slithers or crawls. **Category 2** – Formal Landscaping: includes specimen trees and annuals and ornamental shrubs planted in formal beds on the course or club entrance.

Category 3 – Native Areas: includes

beds of native plants including trees, shrubs and grasses used in naturalized areas to reduce turf inputs and aquatic vegetation plantings used to create habitat and protect water quality. **Category 4** – Scenic Hole: includes any view of a golf hole (panoramic or close up) that demonstrates the scenic beauty of a golf course.

EASY RULES

Color prints or slides. Prefer prints. Only one entry per category. Digital images: Digital image entries must be taken at a resolution setting of 300 dpi or higher and saved as Jpeg or Tif format images. Images taken, saved and sent at lower resolutions will not qualify for the contest. If you're not sure, send a print instead.

Photo must be taken on an FGCSA member's course. Photo must be taken by an FGCSA member or a member of his staff.

Attach a label on the back of the print or slide that identifies the category, course and photographer. DO NOT WRITE DIRECTLY ON THE BACK OF THE PRINT. Each print shall be attached to an 8.5 x 11 sheet of paper using a loop of masking tape on the back of the print. Slides should be in plastic sleeves for easy viewing. Digital images must be accompanied by the same information in an email or document, or on a CD.

A caption identifying the category, course and photographer should be typed or printed on the sheet of paper below the mounted print. Judging will be done by a panel of FGCSA members not participating in the contest.

Mail entries in a bend-proof package marked PHOTOS DO NOT BEND to Joel Jackson, 6780 Tamarind Circle, Orlando, 32819. Entries postmarked after August 1, 2006 will be automatically entered in the 2007 Photo Contest.